Spirulina - From growth to nutritional product: A review

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Abstract

Background

\textit{Spirulina} is multicellular and filamentous \textit{cyanobacteria} that have achieved a considerable popularity in the health sector, food industry and aquacultures. It develops and grows in water, can be harvested and processed easily. It has very high content of macro and \textit{micronutrients}, \textit{essential amino acids}, proteins, lipids, vitamins, minerals and \textit{anti-oxidants}. \textit{Spirulina} is considered as a complete food supplement to fight against malnutritional deficiencies in developing countries. \textit{Spirulina} is deemed safe for human consumption as evident by its long history of food use and latest scientific findings. In recent years, \textit{Spirulina} has gathered enormous attention from research fraternity as well as industries as a flourishing source of \textit{nutraceutical} and pharmaceuticals.

Scope and approach

The primary objective of this paper is to review the utilization of \textit{Spirulina} as a \textit{dietary supplement} in the food industry. In the present work, the three main area of \textit{Spirulina} research: growth, harvesting and potential application are presented.

Key findings and conclusion

The important growth parameters have been studied to enhance \textit{Spirulina} biomass productivity qualitatively and quantitatively. This review provides useful information on commercially viable technology for \textit{Spirulina} cultivation. Mass cultivation and Innovative formulations are further needed to fortify conventional foods with \textit{Spirulina} based protein system.

Keywords

\textit{Spirulina}; Pharmaceutical; Nutritional use; Dietary supplement; Open pond; PBR